REMARKS

I. Introduction

In response to the Office Action dated February 4, 2008 (and the Advisory Action dated December 23, 2008), claims 14, 19 and 25 have been amended and claim 27 has been added. Claims 14, 15, 19 and 25-27 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicants' Attorney has amended claims 14, 19 and 25 and added new claim 27 as indicated above. These amendments and new claim 27 are fully supported by the specification as filed and introduce no new matter.

Specification support for embodiments of the invention where the compound of the formula (I) comprises an R_1 moiety that is a hydrogen or a lower alkyl group is found for example in paragraphs 16 to 18 of the present application. Paragraph 16 of the present application teaches for example general compounds of formula I (i.e. which include the group R1, as recited in paragraph 11 of the present application) and further identifies a number of prior art documents that disclose illustrative compounds of formula (I) where R_1 is hydrogen or lower alkyl group (see, e.g. U.S. Patent Nos. 4,582,916, 6,420,369, 6,559,293, 6,583,172, and EP-B-0, 138,441 which were incorporated by reference). Paragraph 16 in the specification also specifically teaches a number of compounds where R_1 is hydrogen or a lower alkyl methyl group. In this context, paragraphs 17 and 18 then discuss topiramate in detail (as well as functional analogues of topiramate), a compound of formula (I) where R_1 is hydrogen. For the reasons noted above, one of skill in the art would agree that the descriptions in the specification of compounds having formula (I) where R_1 is hydrogen or a lower alkyl group reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, clearly possessed compounds having formula (I) where R_1 is hydrogen or a lower alkyl group.

Specification support for embodiments of the invention where a dyskinesia manifests as chorea or dystonia is found for example in paragraph 13 of the present application.

Consequently, the amendments to claim 14 are fully supported by the specification as filed and introduce no new matter.

III. Claim Objections

On page (3) of the Office Action, claim 14 was objected to due an absence of a definition for R_1. Claim 14 has been amended hereinabove to overcome this rejection.

On page (3) of the Office Action, claims 25 and 26 were objected to due to improper dependencies. Claim 25 has been amended hereinabove to overcome this rejection.

IV. Prior Art Rejections

On page (3) of the Office Action, claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dursun et al. (Canadian Journal of Psychiatry, 2000) and http://www.answers.com/topic/dyskenesia. On page (5) of the Office Action, claims 19, 25 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dursun in view of Wolters et al., CMAJ, 1989 (Wolters).

A. REJECTION CLAIMS 14 AND 15 UNDER 35 U.S.C. §103(a) AS UNPATENTABLE OVER DURSUN

On page (3) of the Office Action, claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dursun. In response, independent claim 14 has been amended hereinabove to recite a method of treating a dyskinesia, wherein the dyskinesia is manifest as chorea or dystonia. Consequently, **the subject matter of this claim is now focused on methods of treating a subset of pathological phenomena (i.e. chorea and dystonia) known in the art to be specific physical manifestations of dyskinesia and distinct from myoclonic jerks**. In this context, skilled artisans understand that while the term "dyskinesia" (from Greek) literally means "abnormal movement", the medical condition termed "dyskinesia" is characterized by a very specific constellation of pathological features. As shown for example by the teaching in Applicants' specification for example in paragraphs 2, 3, 5 and 13, those of skill in this art understand that "dyskinesia" is used clinically to describe abnormal movements that have a squirming or writhing character. The clinical spectrum of disorders characterized as dyskinesia by medial personnel

includes those associated with poverty of movement (akinesia, hypokinesia, bradykinesia) and hypertonia (e.g. Parkinson's disease, some forms of dystonia) as well as involuntary movement disorders (hyperkinesias or dyskinesias e.g. Huntington's disease, levodopa-induced dyskinesia, ballism, and some forms of dystonia). The clinical spectrum of disorders characterized as dyskinesia by medial personnel does not, however, encompass all observable manifestations of disordered movement.

Applicants respectfully traverse the obviousness rejection to claims 14 and 15 based upon an disclosure describing a patient who suffers from myoclonic jerks (e.g. Dursun) because those of skill in this art understand myoclonic jerks comprise a pathological movement syndrome that is distinct from dyskinesias in terms of: (1) clinical manifestations (phenomenology); (2) underlying brain mechanisms and; (3) response to pharmacological intervention. For example, when artisans characterize clinical manifestations associated with different movement disorders, myoclonic jerks are defined as rapid, electric-shock-like twitches of muscles caused by paroxysmal activity in the motor neurons that control them. In contrast, dyskinesias are defined by writhing movements (often called chorea or athetosis). Moreover, myoclonic jerks are caused by uncontrolled excitation of the motor cortex and/or motor neurons that control muscles and often occur following acute insult or injury to the cerebral hemisphere, or brain stem, by trauma, surgery or stroke. Dyskinesias, in contrast, are caused by dysfunction of quite different parts of the nervous system, called the basal ganglia, and are typically the consequence of chronic neurodegenerative conditions. While dyskinesia and myoclonic jerks are known in the art to be distinct movement disorders, in order to further distinguish the claimed invention from the art cited by the Patent Office, independent claim 14 has been amended hereinabove to recite a dyskinesia that manifests as chorea or dystonia.

At page 4 of the Office Action dated September 15, 2008, the Patent Office acknowledges that Dursun does not teach dyskinesia. As Dursun does not teach dyskinesia, this disclosure consequently fails to teach or suggest that an anticonvulsant such as a compound of formula I as defined in claim 14 (including topiramate) would have been useful for treating any specific manifestation of dyskinesia, much less chorea or dystonia as recited in amended claim 14. For this

reason, artisans cannot rely on this disclosure to envision new therapeutic regimens for chorea or dystonia.

Under MPEP §2142 and 2143.03 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). As noted above, Dursun fails to teach or suggest a treatment for any specific manifestation of dyskinesia, much less chorea or dystonia as recited in claim 14 as amended hereinabove. For this reason, Applicants respectfully request a withdrawal of the rejection to claims 14 and 15 under 35 U.S.C. §103(a).

B. REJECTION CLAIMS 19, 25 AND 26 UNDER 35 U.S.C. §103(a) AS UNPATENTABLE OVER DURSUN IN COMBINATION WITH WOLTERS

On page (5) of the Office Action, claims 19, 25 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dursun in combination with Wolters. Applicants respectfully traverse this rejection because the disclosure in Wolters fails to remedy the deficiencies of the Dursun disclosure. In particular, the disclosure in Wolters focuses on the treatment of Parkinson's disease and teaches that treatment of Parkinson's disease with Levodopa may cause adverse reactions such as dyskinesia (see, e.g. the section entitled "Dopamine Precursors" on pages 508 and 509 of Wolters). In this context, the only disclosure in Wolters as to how such dyskinesias may be alleviated is provided in the seventh paragraph on page 511 where it is taught that this may be achieved by altering the daily dose of Levodopa. Wolters fails to provide any teaching or suggestion of the use of a compound of formula I as defined in claim 14 (e.g. topiramate) for treating any specific physical manifestation of dyskinesia, much less chorea or dystonia.

As noted above, under MPEP §2142 and 2143.03 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Neither Dursun nor Wolters provides any teaching whatsoever that pertains to the use a compound of formula I such as topiramate for treating dyskinesias, much less dyskinesias that manifest as chorea or dystonia. Thus, one of skill in the art cannot combine Dursun and Wolters in a way that teaches or suggests the subject matter of claims 19, 25 and 26. For this reason, Applicants respectfully request a withdrawal of the rejection to claims 19, 25 and 26 under 35 U.S.C. §103(a).

In addition, one of skill in the art further understands that schizophrenia (as disclosed in Dursun) and Parkinson's disease (as disclosed in Wolters) are very different pathological conditions that result from different underlying physiological mechanisms in the brain. For example as noted in the Wolters disclosure, Parkinson's disease is a pathological condition characterized by decreased dopaminergic activity in the brain (see, e.g. Wolters et al., the paragraph bridging pages 507-508). In contrast, those of skill in the art understand that schizophrenia is a pathological condition characterized by increased dopaminergic activity in the brain (see, e.g. the abstract of Rao et al., Eur Arch Psychiatry Neurol Sci. 1984; 234(1): 8-12, a copy of which was provided with the Amendment dated June 4, 2008). For this reason, the artisan concurrently understands that the clinical regime for the treatment of dyskinesias that manifest as chorea or dystonia which arise as a side-effect of a therapeutic agent, requires a distinct clinical regime from the clinical regime required for the treatment of schizophrenics exhibiting myoclonic jerks caused by clozapine (as disclosed in Dursun).

Because of, for example, the very different dopaminergic activity profiles that are observed to occur in the brain in individuals suffering from Parkinson's disease as compared to those suffering from schizophrenia, one of skill in the art would further disagree with the Patent Office's belief that artisans are motivated to mix and match therapeutic agents in these different pathologies such that "it would have been obvious to one of ordinary skill in the art at the time of the invention to have employed topiramate to treat the dyskinesia-like side effects caused by L-DOPA as taught by Wolters" (Office Action page 6). Instead, in view of the "opposite" dopaminergic brain profiles known to characterize these two pathological conditions, one of skill in the art would more likely believe that an agent observed to be useful to treat a patient suffering from Schizophrenia (i.e. having an increased dopaminergic activity in the brain) would be unsuitable for a patient with Parkinson's disease (i.e. having an decreased dopaminergic activity in the brain). In fact, because Schizophrenia and Parkinson's disease a exhibit these "opposite" profiles of dopaminergic activities in the brain, the artisan familiar with this difference between these pathological conditions is taught away from combining the Dursun and Wolters disclosures.

A reference's disclosure teaches away if a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference. *In re Gurley*, 27 F.3d 551, 553, 31 U.S.P.Q.2d 1130 (Fed. Cir. 1994). As noted in M.P.E.P. 2145(X)(D)(2), references cannot be combined where reference teaches away from their combination. In this context, because

skilled artisans are aware that Schizophrenia and Parkinson's disease exhibit "opposite" profiles of dopaminergic activities in the brain, one of skill in the art would be would be discouraged from mixing and matching therapeutic agents used to treat schizophrenia with agents used to treat Parkinson's disease. For this additional reason, one of skill in the art cannot combine the disclosure in Dursun with the disclosure in Wolters to arrive at the invention recited in claims 19, 25 and 26. For this additional reason, Applicants respectfully request a withdrawal of the rejections under 35 U.S.C. §103(a).

In addition, the various elements of Applicants' claimed invention together provide operational advantages over Dursun and Wolters. In addition, Applicants' invention solves problems not recognized by Dursun and Wolters. Thus, Applicants submit that independent claim 14 is allowable over Dursun and Wolters. Further, the dependent claims are submitted to be allowable over Dursun and Wolters in the same manner, because they are dependent on the independent claims, and thus contain all the limitations of the independent claims. In addition, the dependent claims recite additional novel elements not shown by Dursun and Wolters.

V. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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Date: February 12, 2009

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G&C 184.5-US-WO